REMARKS

Claims 1-11 are now pending in the application. Claims 1-11 stand rejected. Claims 1 and 7 have been amended; support for which can be found throughout the application as originally filed, and in particular, in paragraphs [0014] and [0018]. As such, no new matter has been presented. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Luken et al. (U.S. Pat. No. 6,534,210, hereinafter "Luken") in view of Van Dine et al. (U.S. Pat. No. 6,514,635, hereinafter "Van Dine"). This rejection is respectfully traversed.

Initially, Applicant notes that Luken discloses a fuel cell power generation system (8) having a primary fuel cell stack (10), an auxiliary fuel cell stack (30), a fuel handling subsystem (50), an oxidant handling subsystem (63), and a controller (90). The controller (90) receives a startup signal and then directs the fuel handling subsystem (63) to introduce fuel to the auxiliary fuel cell stack (30). See Col. 7, lines 33-39. The fuel reacts with

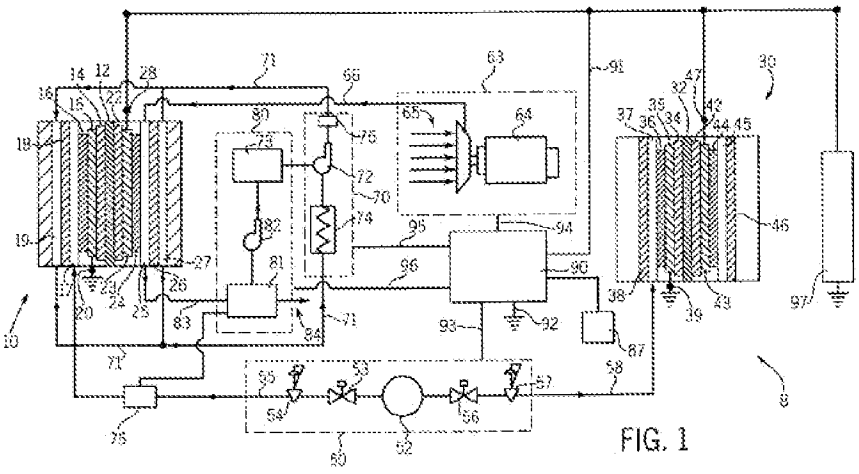

FIG. 1

oxygen in the auxiliary fuel cell stack (30) to produce an initial electrical output, which is sensed by the controller (90) for redirection to various electrical loads. See Col. 7, lines 40-47. One such load is the compressor (64), which is included in the oxidant handling subsystem (63). See Col. 6, lines 37-40. In turn, the compressor (64) introduces compressed oxidant into the primary fuel cell stack (10). See Col. 7, lines 48-53. The "fuel feed rate of the fuel into the fuel flow path (17) of the primary fuel cell stack (10) and the oxidant feed rate of the oxidant into the oxidant flow path (25) of the primary fuel cell stack (10) are increased." See Col. 7, lines 59-62. This process of using the auxiliary fuel cell stack (30) to increasingly power the compressor (64) is continued until the primary fuel cell stack (10) reaches normal operating conditions. See Col. 7, lines 64-67. In a second embodiment, the electrical output generated by the primary fuel cell stack (10) can also be applied to the compressor (64) to ramp it up to normal operating conditions. See Col. 8, lines 1-11.

In contrast, Applicant's amended Claim 1 recites:

> ...purging hydrogen from the fuel cell stack with air prior to startup;
>
> starting the fuel cell system by re-introducing said hydrogen to the anode inlet of the fuel cell stack, said hydrogen reacting with said air **to generate an initial amount of electrical power**;
>
> determining said initial amount of electrical power generated by the fuel cell stack with an electronic controller;
>
> applying an electrical load to the fuel cell stack via the compressor for supplying oxygen to the cathode inlet **based on said initial amount of electrical power** of the fuel cell stack; and
>
> gradually increasing said electrical load on the fuel cell stack over time while using increased electrical power generated to drive the compressor to supply additional oxygen to the cathode inlet.

Luken teaches away from a traditional proton exchange membrane (PEM) fuel cell system where initial electrical charge, generated from pre-existing air combined with a hydrogen fuel, powers the compressor. See Col. 6, lines 1-4 ("This is in contrast to traditional proton exchange membrane fuel cells such as primary fuel cell 10 which require forced flow of oxidant."). "[W]hen the prior art teaches away from combining certain known elements, the discovery of a successful means of combining them is more likely to be nonobvious." *KSR International Co. v. Teleflex, Inc.*, 82 USPQ2d 1385, 1395 (U.S. 2007). Even if Luken had included a hydrogen purge prior to startup, the initially generated "amount of electrical power" still must come from the auxiliary fuel cell stack (30). Furthermore, as Van Dine discusses only normal fuel cell operation and shutdown procedures (rather than startup procedures), it cannot be used to overcome this deficiency.

Luken also fails to disclose that during startup re-introduced hydrogen reacts with air found in the fuel cell stack to generate an initial amount of electrical power, which is then used to power the compressor. As previously noted above, Luken relies on the auxiliary fuel cell stack (30) to power the compressor (64) and fails to disclose that the primary fuel cell stack (10) is a self-contained device as in Applicant's Claim 1.

Accordingly, in view of at least the above discussion, Applicant respectfully submits that Luken, in combination with Van Dine, does not disclose each and every element of Claim 1, and thus, Applicant respectfully requests the Office to reconsider and withdraw the rejection of Claim 1 under 35 U.S.C. § 103(a).

As Claims 2 – 11 depend from Claim 1, they should also be in condition for allowance. Additionally, with respect to Claim 7, Applicant asserts Claim 7 has

independently allowable subject matter as amended Claim 7 recites, "gradually increasing said electrical load to the fuel cell stack is performed on an open loop basis according to a predetermined time schedule." Luken does not teach or disclose increasing the compressor load applied to the fuel cell stack according to a predetermined time schedule. Luken discusses increasing the coolant pump load "in response to the sensed startup signal" (Claim 8 of Luken) and "in response to the ambient temperature" (Claim 9 of Luken). Luken also discusses increasing the water pump load "in response to the sensed startup signal" (Claim 10 of Luken). Luken's only discussion of increasing the compressor load is in the context of increased electrical power or load sensing (see Claims 11 – 19; Col. 3, lines 31-52; Col. 8, lines 1-11). Accordingly, Applicant respectfully requests the Office to reconsider and withdraw the rejection of Claims 2 – 11 under 35 U.S.C. § 103(a).

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested.

If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: July 21, 2008

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